

# The Planters' Chronicle.

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## THE U. P. A. S. I.

(INCORPORATED.)

### Contents.

ad. Planting Expert, returned to Head Quarters on Monday, night for Mercara to attend a special meeting in connection with the appearance of Green Bug in Coorg, and other matters. Letters were addressed to him.

Scientific Department furnishes an article on Rubber Manuring. It would draw attention to the last para; and notice is given of the Exhibition, and special attention drawn to the best way of dealing with it for identification.

Minutes of the Central Travancore Planters' Association are

minutes of an important meeting of the Mysore Planters' Association, and it is to be hoped that the Mysore Darbar will pay attention to what amounts to a warning from the Combined Associations of Mysore in connection with this advent of Green Bug in Mysore. Mr. [Name] writes that it has been decided that the Scientific Assistant's services cannot at present be spared to assist the Scientific Department in the use of chemical fertilisers. At this somewhat anxious time it will be well that the combined Associations of Mysore have decided wisely.

In the *Tropical Agriculturist* we cull an article on Agricultural

may here mention that the *Tropical Agriculturist* has passed into private ownership—that of the Ceylon Agricultural Society, which assures a continuance of the same high excellence of matter and manner that has distinguished this most useful Journal.

In Rubber Production in a state of infancy in South India we have thought it advisable to publish the opinion of two authorities on the subject of uniformity in the Rubber sent to market.

It has been suggested that the Annual Meeting of the United Planters' Association should be held on August 23. The usual Exhibition will be held in connection with it, and assistance of all is solicited to make it a success.

### THE SCIENTIFIC DEPARTMENT, U.P.A.S.I

**Rubber Manuring.**—In the course of an article on Malayan Soils in the *Agricultural Bulletin of the Federated Malay States*, 1.6, Mr. Barrowcliff says that in order to determine to what extent the cultivation of Rubber is depleting the natural resources of the soil, estimations were made of the quantities of the various plant foods removed in the latex and it was found that in producing a crop of 400 lbs. of dry rubber there are removed per acre per annum,  $3\frac{1}{2}$  lbs. of Nitrogen, 3 lbs. of Potash, and  $1\frac{1}{2}$  lbs. of Phosphoric Acid. These quantities are very small indeed as compared with the amount of plant food removed by some crops. A certain amount is of course being stored in the trees themselves. The author remarks that it does not follow that the application of nitrogenous manures may not frequently be beneficial as a stimulus, but it seems that the promotion of natural bacterial nitrates formation by surface cultivation and liming should supply all that the rubber tree requires, practically all the Nitrogen thus taken up being returned at the fall of the leaf and seed to undergo again the cycle of change. Due regard will of course have to be paid to the risk of loss of nitrogen through excessive nitrate production and leaching from the soil. Experiments are recommended to test the following points:—

- (a.) The extent to which lime can be safely and profitably added to the soil.
- (b.) The use of Green Manures to improve the texture of the soil.
- (c.) The use of Phosphatic manures and the conditions under which they will prove remunerative.

With regard to green manuring practice it is advised to use a plant which can be sown immediately before, and cut and dug in at the close of, the wet weather so as to avoid depriving the rubber of soil moisture in the dry season. The digging in of a green crop at the end of the wet season greatly lessens the subsequent loss of water by evaporation from the surface, the mulch formed breaking the continuity of the water film in the soil.

Mr. F. Wohltmann from a study of the analyses of Rubber soils, both Hevea and Ceara, in South America, and East Africa comes to the following conclusions:—

(a.) A good Rubber soil should be fine and of a medium coherence, rather loose than heavy, and deep. The combined fineness and depth of the soil bring about a dampness which appears to be indispensable to the formation of latex. Loams, or clay loams, with from 95 to 100% of fine particles are the soils to be preferred for Rubber, while compact clays are unsuitable.

(b.) It is not necessary that the Nitrogen content should be high. A large percentage of humus is perhaps injurious; 0.1% of Nitrogen is sufficient, especially in districts with a heavy rainfall.

(c.) Rubber trees only need very limited amounts of Lime and Magnesia but it is not yet known whether a high percentage of these ingredients hinder latex formation.

(d.) The rubber tree appears to have no special requirements as regards the Phosphoric Acid content of the soil.

(e.) It seems that a large amount of Potash in the soil promotes growth and formation of latex, and it is therefore advisable to use potassic fertilisers.

It will be noted that the conclusions of these two authorities do not exactly agree, but each is writing of a different country. Definite experiments are badly needed in Southern India to test all these points. When are Rubber planters going to undertake them?

**Forthcoming Exhibitions.**—*United Empire (the Journal of the Royal Colonial Institute)* says: "This year the Royal Agricultural Society is to hold its meeting at Bristol on Friday, July 4<sup>th</sup>. The occasion has been taken to inaugurate an appropriate development in the practice of Britain's leading agricultural body. Several acres are to be devoted exclusively to exhibits from all parts of the British Empire overseas and from foreign countries. It is expected that this special section will be of a thoroughly representative character. This feature has been adopted on the suggestion of the Overseas Section Committee, who have been working hard to make known in Canada, Australia, New Zealand, South Africa, and India, the opportunity presented by the Bristol Exhibition to bring their natural products more prominently before the Old Country. There is a long standing and very intimate trade connection between most of these countries and Bristol. The Council of the Royal Agricultural Society have sent cordial invitations to the High Commissioners, Agents-General, and Representatives of all Overseas Dominions to take space at the Bristol meeting and to be present.

The Fourth International Rubber Exhibition will be held in London in June 1914. At this Exhibition the representation of interested Governments promises to be larger than at the previous Exhibitions. Not only Rubber, but all commercial products grown in tropical and sub-tropical countries will be shown. The President is Sir Henry A. Blake.

The First International Cotton, Fibres, Tropical Products, and Allied Trades Exhibition will run concurrently with the Rubber Exhibition, but will be separate in every detail. The two Exhibitions will be held under the auspices of the International Association of Tropical Agriculture, of which Professor Wyndham K. Dunstan, the Director of the Imperial Institute, is President. Professor Dunstan has accepted the Presidency of the Cotton and Fibres section of the Exhibition.

**Specimens of Plants Sent for Identification.**—Specimens are constantly being received for identification in an unsuitable condition. *Fresh material should not be sent* as it always wilts and spoils in transit. Herbarium specimens should be prepared and forwarded. In these notes on page 498 of Vol. VII a good method of preparing such specimens was given and this is now repeated.

"A botanical specimen is such a portion of a plant as may enable a botanist to determine its name, &c. Thus, of a tree or shrub, a shoot, say 6 inches or 9 inches long, bearing leaves, flowers, and fruit, if possible, will be sufficient. Of herbs when small, an entire plant should be sent, collected when in flower. Of herbs of a large size, a portion of the lower (radical) leaves and also a portion of the tip, in flower or seed. All specimens should represent the typical form not an abnormal or irregular growth, except to show such growth. After gathering, place the specimen between sheets of paper (old newspaper), and put the whole under a slight pressure; these papers should be changed for dry sheets every day for three or four days, when, if the specimens are not of a succulent nature, they will be in a fit state to forward by post."

In all cases several specimens of each kind of plant should be sent and great care should be taken about labelling. To each specimen a label should be securely tied on which should be recorded the locality in which the plant was found, the approximate date when it is in flower, the elevation at which it grows, the colour of the flower, and any other useful information such as the local name, whether it grows in the open or in shade, in masses or singly, in damp or dry places, and so on.

R. D. A.

**DISTRICT PLANTERS' ASSOCIATIONS.****Central Travancore Planters' Association.**

*Proceedings of the First Quarterly General Meeting of the above Association held at Ashley Bungalow on Saturday the 3rd May, 1913, at 10 a. m.*

**PRESENT.**—Messrs. F. Bissett (Chairman), T. C. Forbes (Vice-Chairman), J. A. Richardson, R. D. Scoble Hodgins, J. S. Wilkie, H. C. Westaway, A. R. St. George, J. H. Ellis, F. W. Winterbotham, W. H. J. Milner, W. H. G. Leahy, (by proxy), H. C. Bracher, R. L. Goldsmith, Messrs. O. S. Barrow, A. Slater, and W. E. Forbes (visitors) and R. P. Roissier (Honorary Secretary).

The Notice calling the Meeting was read.

The Proceedings of the last Meeting were taken as read and confirmed. The Chairman said that he felt sure that they were all very pleased to have Mr. Barrow with them to-day and extended to him a very hearty welcome.

**Finance.**—It was resolved that the Subscription to this Association for the year be at the rate of 3½ annas per acre.

**Correspondence.**—Read letter from the Honorary Secretary, South Travancore Planters' Association, dated 12th March, 1913.

Read letters from Mr. Slater, Assistant Engineer, P. W. D., Peermade, dated 11th March and 11th April, 1913.

Mr. Richardson proposed a vote of thanks to Mr. Slater for having assisted them in getting Water Troughs for the Peermade Mundakayam Ghaut Road. Seconded by Mr. Roissier and carried unanimously.

Read letters from the Honorary Secretary, Kanan Devan Planters' Association, dated 19th and 27th March, 1913, also a letter from the President of the Madura District Board dated 14th April, 1913.

It was resolved:—"That this Association supports the Kanan Devan Association in a deputation to the Governor of Madras."

The Chairman proposed:—"That Mr. Richardson represent this Association in a deputation to the Governor of Madras to bring to his notice the necessity of bridging the Theni River for a light feeder Railway to Kuravanthi via Bodinayakanur from the S. I. R."

Seconded by Mr. Forbes and carried unanimously.

Mr. Richardson thanked the Members of this Association for having elected him.

Read letter from the Chief Secretary to Government dated 31st March. Read letter from the Resident of Travancore and Cochin dated 4th April. It was resolved:—"That the Honorary Secretary write again to the Resident on the subject of the Arrack Tavern at Kuttikanon and also point out this Association thoroughly approves of all the contents of the letter written by the Honorary Secretary dated 21st April."

Read letter from Messrs. Peirce, Leslie & Co., Ltd., dated 29th April. Read letter from the Secretary, U. P. A. S. I. dated 19th February. It was resolved:—"That this Association support and continue to contribute to the Scientific Department for another period of 5 years provided that the Madras Government give their support as before."

Read letters from the U. P. A. S. I. No. 3/13 dated 3rd April, No. 6/13 dated 19th April.

**Ropeway.**—Mr. Richardson explained to those present the Scheme for the Peermade Ropeway, to be erected, and gave details of what had been done up to the present and also gave estimates for the approximate cost of this Ropeway.

The Chairman thanked Mr. Richardson for his remarks which were most interesting.

**Breach of Contract Act.**—This Act which is to be brought forward at the next Travancore Council Meeting was explained to the members by Mr. Richardson.

The Chairman thanked Mr. Richardson on behalf of this Association for the trouble he had taken over this Act.

**Government Reserve Land.**—Resolution by Mr. Richardson. "That this Association strongly objects to Government's action in placing the forest adjoining the following Estates into reserve :—

Ashley Estate.	Bison Valley Estate.
Stagbrook Estate.	Mai Mallay Estate.
Vembenard and Twyford Estates.	Woolands Estate.

These being some of the oldest Estates in the District their supply of firewood is getting short. These Estates always considered this forest available for fuel as the land is unsuited for Tea cultivation." Seconded by Mr. Forbes and carried unanimously.

**Resolution by Mr. Bissett.**—"That this Association wishes to draw the attention of the Postmaster-General, Madras, to the very unsatisfactory delivery of mails at the Peermade and Vandiperiyar Post Offices." Seconded by Mr. Ellis and carried unanimously.

**Peermade Post Office.**—It was resolved that the Honorary Secretary do write to the Postmaster, Peermade, complaining of the present slackness at the Post Office.

With a vote of thanks to the Chair the Meeting terminated.

(Signed) REGINALD P. ROISSIER,  
Honorary Secretary.

#### DESTRUCTION OF LANTANA.

This plant is apt to become a great nuisance in tropical countries on cultivated and pasture land, owing to its dense growth and extraordinary vitality. It appears from the *Journal d'Agriculture Tropicale* (1912, 12, 154) that an attempt is now being made in New Caledonia to combat the pest by introducing a species of fly of the *Agromyzidae* family from Hawaii. The insects have been distributed in the environs of Numea on land infested with lantana. As a result the larvae of the fly have been found in many of the seeds and it is intended to extend its distribution in the colony. The result of the experiment will be watched with interest; it must be borne in mind, however, that where a new animal species has been introduced to destroy some pest it has itself sometimes proved to be injurious in other directions.

### Mysore Planters' Association.

*Minutes of a Meeting of the Mysore Planters' Associations held at the Town Hall, Chikmagalur, on May 20th, 1913.*

#### PRESENT—

Representatives of the North Mysore Planters' Association.

Do. Do. Native Planters' Association.

Do. South Mysore Planters' Association.

Do. Bababudin Planters' Association.

Mr. K. Krishna Iyer, Deputy Commissioner, Kadir District.

Mr. Khunni Kannan, Assistant Entomologist, representing Dr. C. L. Coleman, Director of Agriculture to the Government of Mysore.

\* Mr. G. N. Frattini, Assistant Scientific Officer (Mysore), to the U. P. A. S. I.

On the proposal of Mr. C. N. Chokkanna, seconded by Mr. C. Vasudeva Rao, Mr. W. L. Crawford was voted to the Chair.

Mr. Crawford in a few words explained the object of the meeting, viz., to take united action to prevent the spread of "Green Bug" (*Lecanium viride*) among the coffee estates of Mysore; and to seek the aid of Government in the matter.

The Chairman next read a letter from Mr. R. D. Anstead, Planting Expert to the U. P. A. S. I.

Mr. Khunni Kannan gave a short address, explaining the life history of the "Green Bug" and an account of the havoc already wrought by it in Ceylon, Pulneys, Nilgiris, Shevaroyes, etc.

Mr. Frattini next addressed the meeting giving an account of the outbreak in South Mysore and the measures advocated and adopted by the Scientific Department of the U. P. A. S. I. for its suppression.

A short discussion of the addresses ensued and Messrs. Khunni Kannan and Frattini replied to various questions asked by those present.

The Chairman then put the following resolutions to the meeting which had been drawn up and approved by the Executives of the four Associations represented.

1. To ask Government's aid to endeavour to locate the source of infection of the present outbreak of "Green Bug" and take steps to eliminate same.—Carried unanimously.

2. To ask Government to appoint an Inspector immediately to each district to inspect all estates that are not already under the observation of the Planters' Associations' Scientific Officer, with a view to localising the outbreak.—Carried unanimously.

3. That it appears to this meeting essential that Government should introduce some form of Local Pest Act in order to strengthen the hands of their Scientific Staff who may be employed in stamping out the Pest.—Carried 2 dissentients.

The Chairman on behalf of those present tendered his thanks to the Deputy Commissioner, Kadir District, for kindly attending the meeting; and also to Messrs. Khunni Kannan and Mr. G. N. Frattini for the instructive addresses they had delivered.

At the close of the meeting Mr. G. N. Frattini exhibited specimens of the "Green Bug" in sealed specimen tubes; and demonstrated, how, by means of a Lens the special marking of the Bug might be identified.

(Signed) W. L. CRAWFORD,

Chairman.

## CORRESPONDENCE.

## Council of Mysore Planters' Association.

Santaveri P. O.,

June 4th, 1913.

R. D. ANSTEAD ESQ.,

Planting Expert,

Bangalore.

Dear Sir,—At the Meeting of the Council held at Chickmagalur, on May 19th, I was instructed to write you with reference to your request for Mr. Frattini's services for the checking of Fertilizer Guarantees.

Owing to the outbreak of "Green Bug" on a few estates in South Mysore it is thought that Mr. Frattini should remain in the District for the present and devote his whole attention to devising means to prevent its spread.

It is hoped that later on in the monsoon it will be possible to allow Mr. Frattini to go to Bangalore and help you, as promised.

The Council very much regrets being unable to keep to its promise made to the U. P. A. Meeting, and to the inconvenience it may have caused you.

I shall be obliged if you will mention in the *Chronicle* that we hope to redeem our promise later but that at present, as I feel sure others will agree, it is not possible to allow Mr. Frattini to be absent from the District.

Yours faithfully,

(Signed) N. G. B. KIRWAN,

Honorary Secretary.

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A further showing of Brazil's purpose to be up to date in methods of rubber production is now evident in Rio. It consists in lessons in rubber tapping, the teacher being Dr. J. C. Wills, the Director of the Botanic Gardens, who illustrates the methods followed in Ceylon and Malay States on *Hevea* trees, in the Botanic Gardens. A series of cinematograph views have also been taken of this work, which will be shown up the Amazon.—*The India Rubber World*.

*The World's Production and Consumption of Rubber.*—According to statistics published in Singapore, the total production of wild and plantation rubber throughout the world in the twelve months ended June 30, 1912, amounted to 93,669 tons, as compared with 79,302 tons in the previous year, and 76,026 tons in 1909-10. On the other hand, the total consumption of 1911-12, is returned at 99,564 tons, as compared with 74,082 tons in 1910-11, or an increase of 25,482 tons; whereas the quantity consumed in 1909-10 was only 4,037 tons in excess of the preceding year. The world's stocks of rubber on July 1, 1912, are reported to have been 10,181 tons, as against 12,563 tons on the same date in 1911. This is a reduction of 2,382 tons, and compares with an increase of 5,565 tons on July 1, 1911, as contrasted with the position on July 1, 1910. The considerable expansion in consumption in 1911-12 is attributed largely to the lower level of prices prevailing during the year.—(From the *Journal of the Royal Society of Arts*.)

## AGRICULTURAL EDUCATION.

### British University of Tropical Agriculture.

Agricultural education has progressed recently by leaps and bounds, its larger growth beginning with James Wilson, United States Secretary of Agriculture, for now some sixteen years. We must give due credit to the Germans for their scientific study of agriculture in the 18th century and give special credit to Messrs. Laws and Gilbert, who, for more than fifty years at their own private Rothamsted Experiment Station in England, carried on a series of experiments and scientific agricultural research work, that was without any parallel in those days, and which became the inspiration of further research work on this side of the Atlantic, until to-day scientific agriculture has become the rule rather than the exception. All of this tremendous agricultural progress has occurred within the limits of the life of the writer. Sixty-five years ago he was the possessor of a book called "The Farm Book" and his farmer friends in those boyhood days used to laugh at the idea of looking into the lids of a book for items concerning farming when the art of farming could only be learned by actual practice in the field, by following the oxen or the horses in the field, and there, in personal intercourse with Nature as it is or as it was, to learn all of its mysteries.

In the United States the granting of certain lands to agricultural colleges became the start of many so-called colleges. These colleges, however, had to employ 3 teachers, as a rule, who knew nothing of agriculture. They did, however, know the ordinary school studies and more or less of Latin and generally something of Greek, as the teachers of these little collegiate schools were men of comparatively good education. It was a hard struggle with these little colleges to get them to adopt any agricultural curriculum and it is only within the last thirty years that agriculture has finally come into its own, the success of the various experiment stations founded by that apostle of agriculture, W. S. Hatch of Missouri, having given agriculture an impetus that has lasted until these days and is increasing in its momentum.

We are led to these reflections by the fact that Great Britain with its immense area of tropical lands, including the British East Indies and the British West Indies, its African and Indian Ocean and Straits Settlement lands, the Island of Ceylon and its control in various other tropical lands, all of a sudden, is now arousing itself to an appreciation of the fact that tropical agriculture stands in about the same relation to the tillers of the soil in these lands that it did three or four thousand years ago. The wonderful success of the British West Indies during recent years and especially in banana culture by American interests and the distribution of these bananas in the United States way up into Central Canada has taught the British at home the value of at least one new branch of agriculture and of commercial distribution.

We might state here how easy it would be to improve the agriculture in the East Indies when we say that about 35 years ago Ceylon produced over a million bags of coffee. The coffee trees were attacked by some insect and the coffee industry in a few years was practically destroyed. This led to the development of the tea industry in Ceylon and now Ceylon teas are actually driving China teas out of England. The United States being the chief consumer of China teas. The quick rally of Ceylon from one great industry to another shows the wisdom of these ancient peoples but they seem to have lacked initiative, or to have been content to carry on their work in the old ways for scores of centuries, apparently without hope of any material improvement.—*The Tropical Agriculturist*, Volume XL, No. 5.

## RUBBER.

### Ceylon Exhibits at the International Rubber Exposition of 1912.

#### INQUIRIES AND CONCLUSIONS.

Mr. F. Crosbie Roles, Ceylon Commissioner, at the International Rubber Exposition of 1912, writes an interesting report which is too long to republish, but from which we extract the opinions of two well-known Rubber Experts, one of whom wishes to be unnamed. These opinions should be valuable as showing the trend of the markets and above all of the purchasers of cured rubber. There is a Committee formed to study the question of the Standardization of Rubber, for at this moment there is a lack of uniformity in the rubber now being sold, and it is necessary for the producer to meet the wishes and tastes of the purchaser. As America takes more than half of the rubber, and as a large quantity of this rubber is shipped from London to the States, it is with a view to point out the necessity of uniformity that these opinions are printed for the benefit of the Rubber Planting Community of Southern India.

I wish to place on record two views which were expressed to me in detail. The first is by Mr. A. D. Thornton, Managing Director of the Canadian Consolidated Rubber Company, Ltd., with its headquarters at Montreal, and possessing the biggest factory in the British Empire. I met him several times in the early days of the Exposition, and when he returned to Canada he sent me the following communication:—

#### MR. A. D. THORNTON'S VIEWS.

My views regarding plantation rubbers are governed by my experience, so that anything I may write for or against these rubbers is absolutely without prejudice to the said rubbers or anyone connected with the same.

Looking back at my records I find that in 1905 I began to use plantation rubber; it came in small quantities, but so handsome was it in appearance when compared with other kinds that we were delighted with it, and immediately began to use it. We were quite disappointed with the results, *it was not as good as it looked*, and up to that time rubber was bought on appearance only. With the aid of the laboratory, however, we found that there were ways of using it to advantage, which we did and have been doing up to the present time. I am a great believer in plantation rubber, because I am forced to be. I am convinced that in a few years wild rubber will prove to be a very poor second. In the meantime, however, we have much to learn, both at the producing end and that of the consumer at the factory.

And so I must tell you what I want. This morning a broker offered me a parcel for first latex crêpe; frankly, I did not know just what he was offering; of course I know the name, but I am not able up to the present time to commit to my *mind and memory any particular grade or style* of plantation rubber, which I feel *sure of getting* if I buy first latex crêpe by name only, and fail to obtain a sample of each particular lot offered for sale, and so I want to *know* just what I am buying.

A great objection to this rubber is the way London importers, &c., handle it. During the year I received a 5-ton lot of biscuit and sheet from London. There were eight very distinct grades in the parcel—some smoked, some not, some crêpe, some sheet, some fairly strong, some very weak, some pale and some dark—and the variation in vulcanization was simply astonishing. Of course we refused the parcel; it was quite out of the question. This kind of thing leaves a nasty taste, and one is liable to swear he would

not use any more of it. Of several lots I have bought direct from Colombo I have never once had any trouble, and at this moment I feel it much to our advantage to buy that way. For that reason I am aiming to obtain some means of being able to know just what I am buying when I am offered a parcel by means of the cable.

As regards reclaimed rubber, I am not inclined to think that it can ever replace crude rubber. If we could return old rubber into its crude state the matter would be different, but it is as impossible as it is to turn bread into flour again. True it is used in vast quantities, but this is only an aid to crude rubber; it does not *replace* crude rubber but it does replace chemical compounds, and it does thus enable us to make rubber goods at a price which is within the reach of all.

I do not think for a moment that crude rubber, even at an extremely low price, will do away with reclaimed rubber, for we must bear in mind that scrap rubber has no value; it is not produced, it is really rubbish. Its first value is fixed by the demand, so that old auto tyres if they were one cent per lb. instead of nine as at present would still be gathered by the scrap dealers, and should the time ever come that such prices prevail, the consumption of rubber goods would be enormously increased from what it is now.

As to the quantities of reclaimed rubber used, it would appear to me, after much consideration, that where 1 lb. of crude rubber is used that  $1\frac{1}{2}$  lb. of reclaimed rubber is also used, for while little or no reclaimed rubber is used in the highest grades, most of the low grades are loaded at the limit.

#### ANOTHER AMERICAN VIEW.

A New York gentleman, who wished to go unnamed, but whose position as arbiter as to what rubber is to be used in the largest rubber manufacturers' combine in the United States would not be disputed, put the matter thus:—

The American Manufacturers in handling plantation grades have found that the greatest difficulty in their use is the lack of uniformity of quality; the rubber coming as it does from a number of plantations and delivered through London in the auctions is repacked, and though any attempt to keep colours uniform, the quality is not such. The lack of uniformity was discovered by various manufacturers making complaint in the past that one lot would work better than another, and upon examination it was found in tracing the shipments, that the poor lots, or those that did not work well, came from new estates, and that the rubber was weak. This in a way has been obviated by the trees becoming older and the latex better, also by the care which is taken in coagulating. The use of plantation grades was forced upon the manufacturers all of a sudden. Previous to 1909-10 they were experimenting in a small way with these grades, but the high values that were experienced in 1909-10 obliged all manufacturers to set their chemists to work to find a substitute for the then high prices of Pará grades. These chemists have done more to promote the future of plantation grades than anyone else and all manufacturers now have adopted the use of plantation grades to rubber. The very fancy light coloured crépes are only used for special purposes. The manufacturers making a general line of goods give the preference, when price is in proportion to the medium, brown or darker colours. To day it is estimated that in the working of plantation grades they are worth to a manufacturer about 5 per cent. below the value of fine Pará, but if this value could be at a uniform difference of, say 15 per cent., a greater amount of plantation grades would be used. To-day

the preference is given to plantation grades; and wild rubber, including fine Para, but more especially the African grades are being eliminated, and these eliminations will continue as long as the relative price between the plantation and African grades remains at present levels. The experience of the manufacturers with plantation grades is similar to that which was experienced with Guayule when it first made its appearance in this market. No manufacturer would use it in an experimental way on account of the condition in which it was arriving in the market. The quality then was very poor, but since then experiments have been made and the quality been brought to a higher standard, and all manufacturers readily take it and use it in their compounds to the extent that, say, in 1910 America alone was using some 13,000 tons. There is no doubt but with the prominence that plantation grades are receiving and the great attention that is being paid to their betterment by the planters that they will experience the same betterment that was experienced by Guayule, and that when the production increases, as it is estimated it will increase, the future will see much more uniformity of quality and larger percentages used.

The American market can see at present why there is not a larger business done in these grades direct, not causing them to purchase through London. They understand that a great many of the companies have their home offices in London, and are required to ship their product through that market. A much larger business could be done, if done direct, the cost of shipping to New York is estimated at 5 per cent. cheaper than shipping through London. In London heavy commissions are paid, rubber is required to be warehoused, sampled, and numerous other charges attached, which do not occur in this market. The only charges there would be on direct shipments to America would be freight, insurance, 1 per cent. commission for selling, and a small charge for weighing and custom house entry, and the rubber upon arriving would be delivered *ex dock* with no store charges attached. If business could be done by purchasing at Colombo, Singapore or other Middle East markets at a f. o. b. price, the seller allowing the purchaser in this calculation a part of the saving over shipment through London, we have no doubt but that a greater and more profitable business could be done. America to-day uses the largest percentage of the output of the Middle East, and it is equitable that they should not be required to make their purchasers through London, and it would be more to the advantage of the plantation to sell them direct. You are aware that in this market there have been dealers who have misrepresented these grades. For instance, the output of the highland smoked sheets is only a small amount, while hundreds of tons of this grade is sold each year. It would be to the advantage of the plantations to brand their rubber in such a way as to prevent imitations being sold as the original article. It has been said by shipping in the original packages that this could be overcome and each estate's rubber being distinguished by the mark on the package. This would be in order if on direct shipment, but when shipment comes through London the various estates are mixed. We look upon it to be caused first by the small amounts that are being offered from each estate at the auctions, these lots are bought and packed, attention being paid only to quality and colour. The original packages from the Far East are too frail to allow the opening for tarring and re-coopering for reshipment to America, and would not stand the voyage; for this reason the original packages are discarded and new packages much stronger and larger are made, so that it is very seldom that on shipments coming from London; the dealers receive the original packages as shipped from the Middle East.—*The Tropical Agriculturist*, Vol. XL. No. 5.

### The Synthetic Chemist and His Raw Materials.

From the point of view of riders of that amusing but expensive and unremunerative hobby, the search for synthetic rubber, the price of turpentine will always have a distinct interest. Messrs. James Watt and Son, in their report on rosin and turpentine in 1912, state with regard to turpentine that the greater part of the year 1912 was a long reaction from the inflated prices of 1910 and 1911. The rise from 25s. 6d. in April, 1909, to 74s. 3d. in March, 1911, was followed by a fall to 27s. in November 1912. During the month of December the market was subject to violent oscillations, the extremes being 31s. 9d. and 27s. 7½d. The average price for 1912 is slightly below that of 1909, but above that of 1908. Lower prices have increased the consumption. In America the present crop promises to be at least as large as that of 1911-12. In France much the same conditions have prevailed. Spain and Portugal appear to have had good crops during the past year. Many other countries are bestirring themselves to tap their pines for turpentine, either as a new departure or with increased energy. The imports into Great Britain from all countries amounted during the year to 32,811 tons. The average price of American turpentine during the year was 33s. 1d. per cwt.

From a synthetic aspect this is distinctly encouraging, as, by purchasing the whole of the imports for conversion into isoprene, an energetic chemist would be able to put no less than 3,000 tons of evil-smelling stuff on to the rubber market at a cost of a little over 20s. per ton for materials alone, without allowing for costs of manufacturing, interest on capital, and any rise that might occur in the price of turpentine by the advent of so spirited a purchaser.

Even if he turns from turpentine to starch, the synthetic rubber man is confronted by a rise in the price of tapioca, due to the fact that large areas formerly devoted to tapioca planting are now being planted to rubber, a crop the price of which will probably remain as high as at present for at least two years, and may possibly advance. Little tapioca planting is being done, and it is not likely that any will take place until either the price of rubber falls or that of tapioca becomes so high as to make its culture more profitable than that of rubber. The only thing really left to the chemist it seems to us, is rubber itself. He might buy plantation crepe, and, so to speak, "shatter it to bits" and build it up again nearer to his heart's desire. The product no doubt could be used as a boot polish, or a hair restorer, or both.—*Rubber World*.

Messrs. Geo. White & Co., say the following notice has been circulated and will be of interest to agents and planters:—

"Owing to the large increase in the imports of over-smoked sheet rubber, the Standard Qualities Committee wish to point out that such over-smoked rubber will not be regarded as standard quality."—*The Rubber World*.

### MOTTO FOR 1913.

Get out your Venesta cases "We still hear complaints of rough cases being used," write Messrs. Gow, Wilson in their 1912 "Annual Rubber Report." The insides of the packages must be well planed and smooth, so that the rubber shall arrive free from saw-dust, chips of wood, &c. Care must be taken to see that both cases and rubber are thoroughly dry before packing.—*Tropical Life*.